

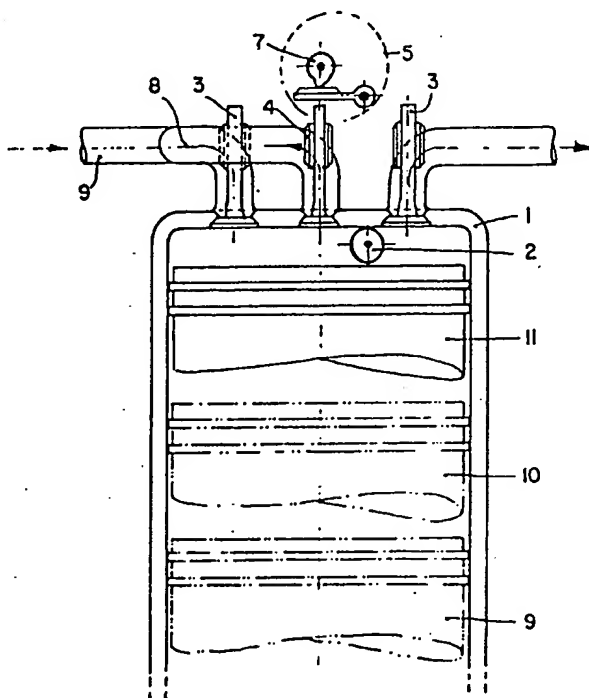
(12) UK Patent Application (19) GB (11) 2 072 957 A

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- (22) Date of filing 5 Sep 1980
- (30) Priority data
- (31) 7905726
- (32) 6 Sep 1979
- (33) Brazil (BR)
- (43) Date of Issue
7 Oct 1981
- (51) INT CL³
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- (52) Domestic classification
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- (56) Documents cited by ISA
US, A, 3986351
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- (58) Field of search by ISA
US 123/48R, 78R, 315,
316
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(54) Intake gas recirculation

(57) The present invention refers to the adapting of an internal combustion spark ignition engine to a multifuel engine having maximum thermodynamic efficiency possible with each particular fuel. The innovation consists in the variation of an effective compression ratio of the engine by recirculation of unburned gases from the cylinder to the intake tube (9) of the engine in a certain extent of the compression stroke of the engine. The recirculation of the intake gases is controlled by an

actuating device (5) with variable action. The basic effect of the invention is to confer to the engine the property of having a variable effective compression ratio optimized for a particular fuel and at the same time to use a large expansion ratio, being constant and independent of the compression ratio, in order to obtain a high thermodynamic efficiency and a low specific fuel consumption. The invention can be applied on existing engines or on new engines in order to get a highly efficient use of volatile or gaseous fuels, such as some petroleum derivatives and its alternative fuels like the alcohols and biogases.



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The application was originally made under the Patent Cooperation Treaty with the Brazilian Patent Office acting as the receiving office on (86) 5 Sep 1980, being given an application number PCT/BR80/00011. The application was searched by the United States of America Patent Office acting as the International Search Authority (ISA), and published by the International Bureau on (87) 19 Mar 1981 under serial number WO 81/00739 in the English language. The text of the application is contained in the publication made by the International Bureau as above identified.

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